UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/570,875	03/07/2006	Osamu Mamba	1254-0308PUS1	9276

2292 7590 03/31/2010

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER	
TUN, NAY L	

ART UNIT	PAPER NUMBER
2612	

NOTIFICATION DATE	DELIVERY MODE
03/31/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/570,875	MAMBA ET AL.	
	Examiner	Art Unit	
	NAY TUN	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 February 2010 and 09 March 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,11,15-17 and 21-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 11, 15-17 and 21-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02/23/2010 has been entered. Claims 2-10, 12-14 and 18-20 have been cancelled, claims 25-27 have been newly added and claims 1, 11, 15, 22 and 24 have been amended. Therefore, claims 1, 11, 15-17 and 21-27 are currently pending for examination.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

3. Claims 1, 11, 15, 22 and 24-27 are rejected under 35 U.S.C. 102(b) as being anticipated by **Iiyama** et al. (**Iiyama**: US 6,489,883).

Regarding claim 1, Iiyama discloses a terminal device (FIG. 7, non-contact IC card), comprising:

an antenna (FIG. 7 and Col. 1 Line 38, Transmitter-receiver 1 has antenna);

a communication circuit (FIG. 7, main circuit unit 13 including modulation and demodulation circuits), and a battery (FIG. 7, battery 29), wherein said communication circuit

receives communication information via an electromagnetic wave received by said antenna (FIG. 7 and Col. 1 Lines 20-22: non contact IC performs information transmission and reception), and power from the battery being a sole source of all drive power supplied to the communication circuit (FIG. 7 and Col. 1 Lines 29-30 and 60-63),

said terminal device further comprising: detection means for detecting a carrier wave supplied via said antenna (FIG. 7, carrier signal detection circuit 3 and Col. 1 Lines 38-43); and control means for controlling the drive power from the battery supplied to said communication circuit (FIG. 7, switching circuit 8 and Col. 1 Lines 43-50), wherein when the detection means no longer detects the carrier wave while a drive power is being supplied to said communication circuit, said control means stops the supply of the drive power to said communication circuit (Col. 1 Lines 45-59: when no carrier signal is transmitted from the question unit, only the carrier signal detection circuit 3 consumes power i.e. the power supply to the main/communication circuit stops and the main circuit goes into sleep state).

Regarding claim 11, Iiyama discloses the terminal device according to claim 1. **Iiyama** further discloses wherein the control means supplies the drive power from the battery to the communication circuit from a start to an end of the detection of the carrier wave by the detection means (Col. 1 Lines 40-59: switching circuit goes into on state when the carrier signal is higher than the reference level i.e. detected and goes into sleep state when the carrier signal is not higher than the reference level).

Regarding claim 15, Iiyama discloses the terminal device according to claim 1. **Iiyama** further discloses wherein when the detection means no longer detects the carrier wave while a drive power is being supplied from the battery to said communication circuit, said control means

stops the supply of the drive power to said communication circuit either after a predetermined period has elapsed after the detection means no longer detects the carrier wave or immediately after the detection means no longer detects the carrier wave (Col. 1 Lines 40-59: when no carrier signal is transmitted from the question unit, only the carrier signal detection circuit 3 consumes power i.e. the power supply to the main circuit power stops).

Regarding claim 22, Iiyama discloses an electric circuit for a communication terminal device adapted to be connected to an antenna and a battery, comprising:

a detection unit that detects a carrier wave from the antenna (FIG. 7 and Col. 1 Lines 37-43: carrier signal detection circuit 3);

a communication unit that communicates via the antenna (FIG. 7 and Col. 1 Lines 20-22: non contact IC performs information transmission and reception), the battery being a sole source of all power being supplied to the communication unit (FIG. 7 and Col. 1 Lines 29-30 and 60-63);

a power control unit that controls the power supplied from the battery to the communication unit (FIG. 7, switching circuit 8 and Col. 1 Lines 43-50), the power control unit stopping the power supply to the communication unit when the detection unit no longer detects the carrier wave while the power from the battery is being supplied to the communication unit (Col. 1 Lines 45-59: when no carrier signal is transmitted from the question unit, only the carrier signal detection circuit 3 consumes power i.e. the power supply to the main/communication circuit stops and the main circuit goes into sleep state).

Regarding claim 24, Iiyama discloses a method of controlling power supply in a

terminal device including an antenna, a communication circuit, and a battery, the method comprising:

detecting existence of a carrier wave in a form of an electromagnetic wave by the antenna (FIG. 7 and Col. 1 Lines 37-43: carrier signal detection circuit 3), supplying a drive power from the battery to the communication circuit when the existence of the carrier wave has been detected (Col. 1 Lines 52-54: power is supplied to the circuit components only when a carrier signal from the question unit is detected and Col. 1 Lines 60-63: power supply from battery), the battery being a sole source of all power being supplied to the communication circuit (FIG. 7 and Col. 1 Lines 29-30 and 60-63); and

terminating supply of the drive power from the battery to the communication circuit when the existence of the carrier wave is no longer detected while the drive power from the battery is being supplied to the communication circuit (Col. 1 Lines 45-59: when no carrier signal is transmitted from the question unit, only the carrier signal detection circuit 3 consumes power i.e. the power supply to the main/communication circuit stops and the main circuit goes into sleep state).

Regarding claim 25, Iiyama discloses a terminal device, comprising:

an antenna (FIG. 7 and Col. 1 Line 38, Transmitter-receiver 1 has antenna);

a communication circuit (FIG. 7, main circuit unit 13 including modulation and demodulation circuits), and a battery (FIG. 7, battery 29), wherein said communication circuit receives communication information via an electromagnetic wave received by said antenna (FIG. 7 and Col. 1 Lines 20-22: non contact IC performs information transmission and reception), and

said terminal device further comprising: detection means for detecting a carrier wave supplied via said antenna (FIG. 7, carrier signal detection circuit 3 and Col. 1 Lines 38-43); and

control means for controlling a drive power supply to said communication circuit (FIG. 7, switching circuit 8 and Col. 1 Lines 43-50), wherein, when said terminal device communicates with a reader/writer (Col. 1 Lines 33-37: question unit that reads and writes from the non-contact IC), said control means supplies drive power from said battery to said communication circuit while said detection means is detecting the carrier wave (Col. 1 Lines 52-54: power is supplied to the circuit components only when a carrier signal from the question unit is detected and Col. 1 Lines 60-63: power supply from battery), and

said control means does not supply the drive power from said battery to said communication circuit while said detection means is not detecting the carrier wave (FIG. 7 and Col. 1 Lines 55-59: when no carrier signal is transmitted from the question unit, only the carrier signal detection circuit 3 consumes power i.e. the power to the main circuit is not supplied).

Regarding claim 26, Iiyama discloses an electric circuit for a communication terminal device adapted to be connected to an antenna and a battery (FIG. 7, battery 29 and Col. 1 Line 38, Transmitter-receiver 1 has antenna), comprising:

a detection unit that detects a carrier wave from the antenna (FIG. 7, carrier signal detection circuit 3 and Col. 1 Lines 38-43);

a communication unit that communicates via the antenna (FIG. 7 and Col. 1 Lines 33-40, main circuit unit 13 communicates with question unit via antenna); and

a power control unit that controls power supplied from the battery to the communication

unit (FIG. 7, switching circuit 8 and Col. 1 Lines 43-50), wherein the power control unit is operative, when said terminal device communicates with a reader/writer (Col. 1 Lines 33-37: question unit that reads and writes from the non-contact IC), to:

supply drive power from said battery to said communication unit while said detection unit is detecting the carrier wave (Col. 1 Lines 52-54: power is supplied to the circuit components only when a carrier signal from the question unit is detected and Col. 1 Lines 60-63: power supply from battery), and, not supply the drive power from said battery to said communication unit while said detection unit is not detecting the carrier wave (FIG. 7 and Col. 1 Lines 55-63: when no carrier signal is transmitted from the question unit, only the carrier signal detection circuit 3 consumes power i.e. the power to the main circuit is not supplied).

Regarding claim 27, Iiyama discloses a method of controlling power supply in a terminal device including an antenna, a communication circuit, and a battery, the method comprising:

receiving communication information via an electromagnetic wave received by said antenna (FIG. 7 and Col. 1 Lines 33-40, main circuit unit 13 communicates with question unit via antenna), detecting a carrier wave supplied via said antenna (FIG. 7 and Col. 1 Lines 37-43: carrier signal detection circuit 3); and

controlling a drive power supply to said communication circuit (FIG. 7, switching circuit 8 and Col. 1 Lines 43-50), wherein, when said terminal device communicates with a reader/writer (FIG. 7 and Col. 1 Lines 33-40, main circuit unit 13 communicates with the question unit via antenna), said controlling step includes, supplying drive power from said

battery to said communication circuit while detecting the carrier wave (Col. 1 Lines 52-54: power is supplied to the circuit components only when a carrier signal from the question unit is detected and Col. 1 Lines 60-63: power supply from battery), and not supplying the drive power from said battery to said communication circuit while not detecting the carrier wave (FIG. 7 and Col. 1 Lines 55-63: when no carrier signal is transmitted from the question unit, only the carrier signal detection circuit 3 consumes power i.e. the power to the main circuit is not supplied).

Claim Rejections - 35 USC § 103

4. Claims 16-17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Iiyama** in view of **Ohbuchi** et al. (**Ohbuchi**: US 5,585,617).

Regarding claim 16, **Iiyama** discloses the terminal device according to claim 1. **Iiyama** further discloses the communication circuit is a non-contact IC module for the terminal device (Col. 1 Lines 29-40: main circuit unit that performs non-contact IC functions of the non-contact IC card and therefore, it is non-contact IC module).

Iiyama does not explicitly disclose wherein the antenna is an antenna coil. However, the preceding limitation is known in the art of communication. **Ohbuchi** discloses a non-contact IC card that uses a battery power supply (Col. 2 Lines 42-44). **Ohbuchi** further teaches the antenna circuit of non-contact IC includes a coil (Col. 2, Lines 63-64 and FIG. 2).

Therefore, it would have been obvious to the one of the ordinary skill in the art at the time of the invention was made to provide a coil antenna as taught by **Ohbuchi**, in the transmitter/receiver circuit of the non-contact IC card, as the known technique to implement the antenna circuit in a non-contact IC card with the predictable result of performing the transmitting

and receiving function of an antenna.

Regarding claim 17, Iiyama discloses the terminal device according to claim 11. **Iiyama** further discloses the communication circuit is a non-contact IC module for the terminal device (Col. 1 Lines 29-40: main circuit unit that performs non-contact IC functions of the non-contact IC card and therefore, it is non-contact IC module).

Iiyama does not explicitly disclose wherein the antenna is an antenna coil. However, the preceding limitation is known in the art of communication. **Ohbuchi** discloses a non-contact IC card that uses a battery power supply (Col. 2 Lines 42-44). **Ohbuchi** further teaches the antenna circuit of non-contact IC includes a coil (Col. 2, Lines 63-64 and FIG. 2).

Therefore, it would have been obvious to the one of the ordinary skill in the art at the time of the invention was made to provide a coil antenna as taught by **Ohbuchi**, in the transmitter/receiver circuit of the non-contact IC card, as the known technique to implement the antenna circuit in a non-contact IC card with the predictable result of performing the transmitting and receiving function of an antenna.

Regarding claim 21, Iiyama discloses the terminal device according to claim 15. **Iiyama** further discloses the communication circuit is a non-contact IC module for the terminal device (Col. 1 Lines 29-40: main circuit unit that performs non-contact IC functions of the non-contact IC card and therefore, it is non-contact IC module).

Iiyama does not explicitly disclose wherein the antenna is an antenna coil. However, the preceding limitation is known in the art of communication. **Ohbuchi** discloses a non-contact IC card that uses a battery power supply (Col. 2 Lines 42-44). **Ohbuchi** further teaches the antenna

circuit of non-contact IC includes a coil (Col. 2, Lines 63-64 and FIG. 2).

Therefore, it would have been obvious to the one of the ordinary skill in the art at the time of the invention was made to provide a coil antenna as taught by **Ohbuchi**, in the transmitter/receiver circuit of the non-contact IC card, as the known technique to implement the antenna circuit in a non-contact IC card with the predictable result of performing the transmitting and receiving function of an antenna.

5. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Iiyama**.

Regarding claim 23, **Iiyama** discloses an electric circuit for a non-contact IC system according to claim 22. **Iiyama** further discloses a central processing unit that controls the communication unit (FIG. 7 and Col. 1 Lines 29-35: main circuit unit 13 includes control circuit 11).

Iiyama does not explicitly disclose that the central processing unit/control circuit controlling the detection unit and the power control unit. However, it is well known in the art of communication that the control circuit resetting/controlling the other components in an electric circuitry either directly or through the reset circuit and would be desirable to do so when an error occurs in the circuitry in order to clear the error by restoring the state of the components to the default/initial state. Therefore, it would have been obvious to the one of the ordinary skill in the art at the time of the invention was made to reset/control the carrier signal detection and switching circuit by the control circuit in order to clear an error in the circuitry.

Response to Arguments

6. Applicant's arguments filed on 02/23/2010 have been fully considered but they are moot in view of new grounds of rejections.

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nay Tun whose telephone number is (571) 270-7939. The examiner can normally be reached on Mon-Thurs from 9:00-5:00.
If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Daniel Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/NAY TUN/

/Daniel Wu/
Supervisory Patent Examiner, Art Unit 2612